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CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

COUNTRY USSR

SUBJECT Examination and Test of Soviet Rayon Waste

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in the USSR and obtained from a shipment received in the US during August 1950.

1. Examination of the sample has revealed the following:

a. The waste sample was composed of three different types of rayon yarn all of which were "crinkly" in appearance and contained twist. In addition to the identified yarns, there was a small amount of "Opened" or perhaps "garnetted" waste. Garnetting is one process roughly similar to combing in which the twisted fibers are separated thus breaking down the yarn into fibers.

b. The three yarns detected are described as follows:

(1) Yarn # 1, a 171 dernier yarn composed of 52 filaments. The sections were non-uniform, had no halo (a term used to describe light reflection characteristics of rayon) and appeared to be conventional, bright viscose (bright viscose rayon yarn is suitable for use in vehicle rubber fire cord) rayon yarn.

(2) Yarn # 2, a 1178 dernier yarn composed of 300 filaments. The sections were moderately uniform, were more highly serrated than most high-tenacity rayon yarns, had a moderately defined halo, and appeared to be medium-or high-tenacity, bright, viscose, rayon yarn.

(3) Yarn # 3, a 704 dernier yarn composed of 298 filaments. The sections were somewhat non-uniform and were elongated, had a very small halo, and appeared to be medium-or high-tenacity, bright, viscose, rayon yarn.

2. The results of tests performed on these yarns are set forth below:

a. Physical Tests	Yarn # 1	Yarn # 2	Yarn # 3
Grams/Dernier	0.82	1.22	1.61
Per cent Elongation	12.0	25.1	7.2
Twist (Turns per inch)	2.7 "S"	4.9 "S"	3.5 "S"
Per cent free shrinkage	0.25	2.1	1.2

b. In view of the results obtained from the physical tests, a methyl orange test for acid was made. All three yarns showed a high residual acid content.

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3. The evaluation of the yarn samples suggested by the above examination and tests is as follows:
- a. All three of the yarns showed lower physical test properties than comparable yarns of US manufacture.
 - b. Yarn # 1 appears to be a conventional, bright, viscose type rayon. Yarns Nos. 2 and 3 appear to be either medium-or high-tenacity, bright, viscose, rayon.
 - c. The "Crinkly" appearance and twist of the yarns suggests that they were produced by the "pot-spun" method.
 - d. The high residual acid content of these yarns has largely vitiated the results of physical tests performed on the samples, with the exception of the filament count and twist in turns per inch.

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